

PHYS 5810 - Quantum Mechanics and Quantum Statistical Mechanics 1

Fall 2026 Syllabus, Section 01, CRN 43547,

Credit hours: 3

Instructor

Michael Crescimanno

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Public Instructor Information

Instructor Title: Professor of Physics

Instructor Professional Qualifications: Physics Ph. D. (U. C. Berkeley, 1991), MSc Physics ((U. C. Berkeley, 1988), BS Physics (Princeton, 1985)

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Course Description

5810. Quantum Mechanics and Quantum Statistical Mechanics 1. The postulates of wave mechanics, Matrix mechanics, angular momentum coupling, scattering, perturbation theory, intrinsic spin, emission and absorption of radiation. Fermi-Dirac and Bose-Einstein statistics with applications in quantum theory. Must be taken in sequence before PHYS 5811. Prereq.: PHYS 3703 and PHYS 3704 and MATH 3705 or MATH 3705H. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Principles of Quantum Mechanics	R. Shankar	146157675X

Principles of Quantum Mechanics,
by Ramamurti Shankar, Springer Verlag

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24		Math review	
Wed	8/26		Math review	
Fri	8/28		failures of classical mech. , waves review	
Mon	8/31		postulates of quantum mech	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.